

WHAT IS CLAIMED IS:

ml 1. A drive-section-isolated FOUP opener for opening and closing a FOUP door which closes a front opening portion of a FOUP containing a plurality of semiconductor wafers oriented horizontally and arranged in layers at predetermined intervals, said FOUP opener comprising:

a dock plate for carrying and positioning said FOUP;

a dock moving mechanism for moving said dock plate to a position for detachment and attachment of said FOUP door;

a port door including a detachment/attachment mechanism for detaching and attaching said FOUP door and a holder mechanism for holding said FOUP door;

a port plate including an opening portion, the opening portion being closed by said port door;

a port door horizontal-movement mechanism for horizontally moving said port door;

a sensor horizontal-movement mechanism for horizontally moving a sensor bracket, said sensor bracket having a mapping sensor mounted on an upper portion of said sensor bracket and adapted to detect presence/absence, storage condition, and position of wafers contained in said FOUP; and

a port-door-and-sensor vertical-movement mechanism for vertically moving said port door and said sensor bracket with said port door holding said FOUP door, so as to house said FOUP door;

a drive section of said port door horizontal-movement mechanism, a drive section of said sensor horizontal-movement

mechanism, and a drive section of said port-door-and-sensor vertical-movement mechanism being disposed in opposition to a clean room with respect to said port plate, said clean room housing said port door and said sensor bracket.

2. A drive-section-isolated FOUP opener according to Claim 1, wherein said port plate has a guide slit located underneath the opening portion in a downwardly extending condition and

the drive section of said port door horizontal-movement mechanism, the drive section of said sensor horizontal-movement mechanism, and the drive section of said port-door-and-sensor vertical-movement mechanism move said port door and said sensor bracket horizontally or vertically, via said guide slit.

3. A drive-section-isolated FOUP opener according to Claim 2, wherein said guide slit is used in common for moving said port door and said sensor bracket.

SUBAL 4. A drive-section-isolated FOUP opener according to any one of Claims 1 to 3, further comprising a drive section chamber for housing the drive section of said port door horizontal-movement mechanism, the drive section of said sensor horizontal-movement mechanism, and the drive section of said port-door-and-sensor vertical-movement mechanism, and said drive section chamber including a device for

SUB A1) exhausting an atmosphere in said drive section chamber to an exterior of said drive section chamber.

ADD A2)

add a1

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